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INTELLECTUAL PROPERTY ADMINISTRATION
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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 15

Application Number: 09/220,736
Filing Date: December 23, 1998
Appellant(s): BOHN, DAVID D.

Bruce E. Dahl
For Appellant

EXAMINER'S ANSWER

MAILED

OCT 31 2001

GROUP 2800

This is in response to appellant's brief on appeal filed September 10, 2001.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is substantially correct. The changes are as follows:

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Upon further consideration and to simplify matters, the rejections of claims 1-3 and 7-9 under 35 U.S.C. 102(b) as being anticipated by Matsunami (U.S. Patent 5,022,725) and the rejection of claims 4-6 and 10-17 under 35 U.S.C. 103(a) as being obvious over Matsunami are withdrawn.

The only issues are:

(a) Whether the rejection of claims 1-3 and 7-9 under 35 U.S.C. 102(b) as being anticipated by Thomson (U.S. Patent 3,825,747) is proper; and
(b) Whether the rejection of claims 4-6 and 10-17 under 35 U.S.C. 103(a) as being obvious over Thomson is proper.

(7) *Grouping of Claims*

Appellant's brief includes a statement that claims 1-17 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) *ClaimsAppealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) *Prior Art of Record*

3,825,747

Thomson

July 1974

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(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Thomson (U.S. Patent 3,825,747).

Regarding claim 1, as understood, Thomson discloses (see Figures 5 and 6) an optical system for forming an image of at least a portion of an illuminated area on an object (10), the illuminated area being characterized by at least one brightly illuminated region (central region of 10) and at least one less brightly illuminated region (peripheral region of 10), comprising: a lens (14) positioned a spaced distance from the illuminated area on the object, the lens having an image side focal plane (near 16); an aperture stop (near 16) positioned so that it is substantially co-planar with the image side focal plane of the lens; and an occluding element (20) positioned between the lens and the illuminated area on the object so that the occluding element blocks a predetermined amount of light from the brightly illuminated region but does not substantially block light from the less brightly illuminated region.

Regarding claim 8, as understood, Thomson discloses (see Figures 5 and 6) an optical system for forming an image of at least a portion of an illuminated area on an object (10), the illuminated area being characterized by at least one brightly illuminated

region (central region of 10) and at least one less brightly illuminated region (peripheral region of 10), comprising: a lens means (14) positioned a spaced distance from the illuminated area on the object, the lens having an image side focal plane; telecentric aperture stop means (near 16) operatively associated with the lens means for blocking selected light rays refracted by the lens means; and an occluding element (20) positioned between the lens and the illuminated area on the object so that the occluding element blocks a predetermined amount of light from the brightly illuminated region but does not substantially block light from the less brightly illuminated region.

Regarding claim 9, Thomson discloses (see Figures 1 and 5) a method of forming an image of at least a portion of an illuminated area of an object, the illuminated area being characterized by at least one brightly illuminated region (central region of 10) and at least one less brightly illuminated region (peripheral region of 10), comprising: positioning a lens (14) a spaced distance from the illuminated area on the object, the lens having an image side focal plane; positioning an aperture stop (near 16) at about the image side focal plane of the lens; and blocking (20) a predetermined amount of light from the brightly illuminated region before the light from the brightly illuminated region is refracted by the lens.

Regarding claims 2 and 3, Thomson discloses (see Figure 5) the occluding element (20) on an object side of the lens and comprising an opaque material deposited on the lens.

Regarding claim 7, Thomson discloses (see Figure 4) the occluding element (20) comprises a substantially circular shape.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-6 and 10-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomson.

Regarding claims 10 and 17, Thomson discloses (see Figures 5 and 6) a system for an image sensing device, the system producing a signal related to a light received from an illuminated area on an object (10), the illuminated area being characterized by at least one brightly illuminated region (central region of 10) and at least one less brightly illuminated region (peripheral region of 10), comprising: a detector or detector means (28); a lens or a lens means (14) having an image side focal plane, the lens being positioned between the detector and the illuminated area on the object so that the lens forms on the detector an image of at least a portion of the illuminated area; an aperture stop (near 16) positioned so that it is substantially co-planar with the image side focal plane of the lens or a telecentric aperture stop for blocking selected light rays refracted by the lens means; and an occluding element or occluding means (20) positioned between the lens and the illuminated area on the object so that the occluding element blocks a predetermined amount of light from the brightly illuminated region but does not block light from the less brightly illuminated region. Thomson further discloses (see Figure 1) a movable scanner. Thomson does not specifically disclose a "navigation" system, "navigation" light or "navigation" area. However, since the scanner

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of Thomson is movable, any signal or light emitted by the apparatus of Thomson is related to a position or navigation. Further, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a navigation system with navigation light and signals in the apparatus of Thomson to improve detection by providing positional or navigational signals to track movement of the scanner or object.

Regarding claims 4-6 and 13-15, Thomson discloses (see Figures 5 and 6) an opening. Thomson further discloses (see Figure 4) the occluding element is an opaque material. Thomson does not specifically disclose a window positioned between the object side surface of the lens and the illuminated area on the object and an opaque occluding element positioned adjacent or deposited on the lens side surface of the window. However, Thomson teaches (see column 3, lines 8-12; "Reflecting member 20 could also be provided separately from the lens 14, as by mounting it in the casing 12.. or a separate member could be provided to shade sensing unit 16") mounting the occluding element on an intermediate member to effect blocking. Furthermore, the translation of the occluding element from the lens to an intermediate window requires only routine skill in the art and is design choice since the function of the occluding element (to block light) remains the same as long as the occluding element is provided between the illumination and the lens. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide the occluding element on either side of intermediate window instead of the lens of Thomson in order to provide more flexibility in adjusting the blockage of light as desired.

(11) Response to Argument

Appellant's arguments with regard to Matsunami et al. are now moot since the rejections in view of Matsunami et al. have been withdrawn.

Appellant's arguments filed with the Appeal Brief with regard to Thomson have been fully considered but they are not persuasive.

First, Appellant argues (see page 15 of the Appeal Brief) that Thomson does not disclose an optical system wherein the aperture is located so that it is substantially co-planar with the image side focal plane of the lens.

Examiner disagrees. As understood, an image side of a lens is defined by a side at which the image is being formed by the lens, that is, the side at which a detector is disposed. A focal plane of a lens is defined as a plane passing through the focal point of a lens. The focal point in the art is usually indicated by the convergence of rays of light to a point. As seen from Figures 5 or 6 of Thomson, an aperture (near 16) is located on an image side (the side of the detector) of the lens. In addition, the aperture is shown to be substantially co-planar with the focal plane of the lens (near 16, the light rays converge at the focal point, defining the focal plane). Thus, as claimed, Thomson discloses (see Figures 5 or 6) an aperture (near 16) located substantially co-planar with the image side focal plane of the lens (14).

Second, Appellant argues (see page 15) that Thomson does not disclose a telecentric optical system.

Examiner disagrees. Appellant defines "telecentric" on page 14 of the Appeal Brief and page 10, lines 17-27 of the specification as having an aperture "at about the

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image side focal plane 48 of lens 36." Thus, as explained, supra, Thomson does disclose (see Figures 5 or 6) an aperture (near 16) located substantially co-planar or at about the image side focal plane of the lens (14). Thomson does disclose a telecentric optical system as claimed and defined by Appellant.

Third, Appellant argues (see page 15) that Thomson does not teach using a telecentric aperture in combination with an occluding element, to compensate for uneven illumination of an object.

Examiner disagrees. Compensation for uneven illumination of an object is not explicitly claimed. Even if claimed, as set forth above, Thomson discloses (see Figures 5 or 6) a telecentric aperture (near 16) with an occluding element (20) that blocks brighter illumination. That is, compensation is effected since the brighter illumination is blocked.

Fourth, Appellant argues (see page 22) that Thomson does not disclose or make obvious a window positioned between the lens and the object, the window having an object side surface and a lens side surface. Appellant also argues that Thomson does not disclose or make obvious the occluding element being adjacent or deposited on the window.

Examiner disagrees. As set forth in the rejection, Examiner cites page 3, lines 8-12 of Thomson, that states "Reflecting member 20 could also be provided separately from lens 14, as by mounting it in the case 12 between the lens and radiation source 10, or a separate member could be provided to shade sensing unit 16 from radiation source 10." Thus, Thomson teaches that an intermediate member with an occluding member

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(20) can be used instead of a combination lens/occluding element. Since the intermediate member only shades part of the illumination, other parts of the member are transparent, thus forming a window. The window inherently has two surfaces, an object side surface and a lens side surface. Further, since Thomson deposits the occluding element on the lens, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to deposit the occluding element on the intermediate member as well. Thus, Thomson does make obvious the window as claimed.

Lastly, Appellant argues (see pages 22-24) that Thompson does not disclose a "navigation system" as claimed.

Examiner disagrees. First, nothing in the claims structurally distinguishes the "navigation" system having "navigation" areas and "navigation" signals with optical systems having optically illuminated areas and optical or electrical signals. Second, as set forth above, since the invention of Thomson is a scanner (see Figure 1) that is movable or portable, any signals or areas in the invention of Thomson relate to a position or navigation. Thus, Thomson does make obvious the navigation system as claimed.

For the above reasons, it is believed that the rejections should be sustained.

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Respectfully submitted,

txl
October 29, 2001

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